

The listing of claims will replace all prior versions and listing of claims in the application:

1. (Currently Amended) A medical device for use in treating a human patient, comprising:

a substrate having an average grain size of ~~less than twenty microns~~ in the range of one to ten microns.

2. (Canceled)

3. (Original) The device of claim 1, wherein the substrate is a stainless steel.

4. (Original) The device of claim 3, wherein the substrate is 316L stainless steel.

5. (Original) The device of claim 4, wherein the average grain size of the substrate is in the range of three to eight microns.

6. (Original) The device of claim 1, wherein the substrate is a cobalt-chromium alloy.

7. (Original) The device of claim 1, wherein the substrate is a nickel-titanium alloy.

8. (Original) The device of claim 1, wherein the substrate is a platinum-iridium alloy.

9. (Original) The device of claim 1, wherein the substrate is titanium or a titanium based alloy.

10. (Original) The device of claim 1, wherein the substrate is tantalum or a tantalum based alloy.

Claims 11-13 (Canceled)

14. (Original) The device of claim 1, wherein the medical device is a stent.

15. (Original) The device of claim 14, wherein the stent is configured with a plurality of struts having a thickness, such that the number of grains across a strut thickness is in the range of five to fifteen.

16. (Original) The device of claim 14, wherein the stent is configured with a plurality of elongate elements having a thickness, such that the average number of grains across an element thickness is more than six.

Claims 17-21 (Canceled)

22. (Currently Amended) An intravascular stent for use in a body lumen, comprising:

a plurality of cylindrical rings interconnected to form the stent, each cylindrical ring having a first delivery diameter and a second expanded diameter; and each cylindrical ring being formed from a fine grained material having an average grain size of one to ten microns.

23. (Currently Amended) The intravascular stent of claim 22, wherein the cylindrical rings are formed from 316L stainless steel ~~having an average grain size in the range of one to ten microns~~.

24. (Original)The intravascular stent of claim 22, wherein the cylindrical rings are formed from 316L stainless steel having an average grain size of about five microns.

25. (Canceled)

26. (Original)The intravascular stent of claim 22, further comprising at least one straight link attaching each cylindrical ring to an adjacent cylindrical ring.

27. (Original)The intravascular stent of claim 22, further comprising at least one undulating link attaching each cylindrical ring to an adjacent cylindrical ring.

28. (Original)The intravascular stent of claim 22, further comprising at least one undulating link attaching a first cylindrical ring to a first adjacent cylindrical ring, and at least one straight link attaching a second cylindrical ring to a second adjacent cylindrical ring.

29. (Original)The intravascular stent of claim 22, wherein each cylindrical ring includes a proximal end, a distal end and a cylindrical wall extending circumferentially between the proximal end and the distal end, and further including an undulating link positioned substantially within the cylindrical wall of a first cylindrical ring so as to attach the first cylindrical ring to an adjacent cylindrical ring.

Claim 30-40 (Canceled)